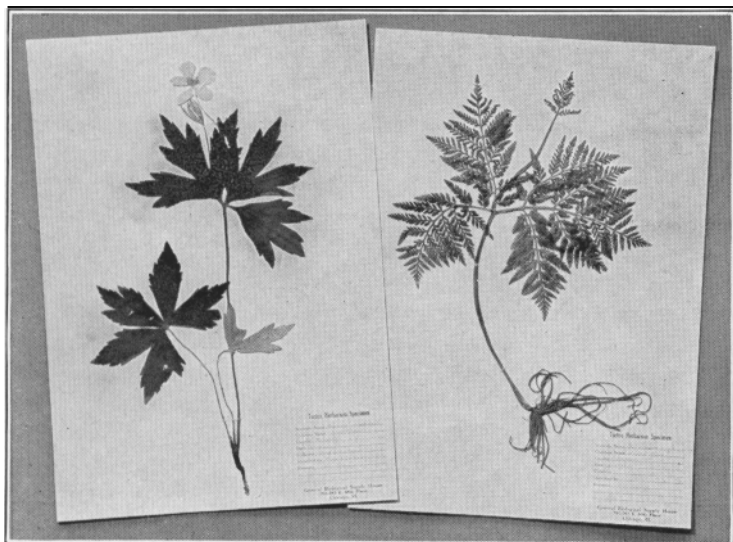


COLLECTING PLANTS

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The collecting of plants is at once one of the most fascinating and one of the simplest of nature-hobbies. Relatively little equipment is absolutely necessary, although there are many things which facilitate collecting and mounting. The following are most important:

1. Trowel or pick to dig up the roots which are essential parts of each specimen.
2. Collecting can (or vasculum).
3. Plant press and driers.
4. Mounting sheets, gummed tape, labels, etc.
5. Folders or boxes.

In collecting, extreme care must be taken to obtain good specimens, preferably in flower or fruit or, if possible, both. The root system or at least part of it, should be taken of all plants which can be collected whole, and care should be given to select samples of terminal and inner leaves if they differ. Keep the plants moist and in good condition until you reach home to press them. Lining the vasculum with wet newspapers when in the field, and placing the vasculum in an icebox if it is impossible to work on the specimens immediately on your return will facilitate keeping the specimens in good condition. Professional botanists often use a field press, but that is an added complication for the beginner.

The most important and difficult part of making herbarium specimens is the pressing and the drying. Since the specimens will eventually be mounted on sheets $11\frac{1}{2} \times 16\frac{1}{2}$ inches, the specimen should be carefully laid out on a folded sheet of unglazed paper (newspaper works very well) but slightly larger than that size, making the arrangement natural as well as pleasing.

Very thick branches must be cut in half to avoid excess thickness; absorbent cotton or cellucotton wrapped in folded newspaper may also be placed over the thinner parts of bulky specimens having thick stems or flowers, so that equal pressure will be exacted on thick and thin sections alike. Long plants, like grasses, may be bent in the middle; and several individuals of very small plants may be placed in the same folder (and eventually mounted together). A field label giving date, locality, habitat, and preferably notes on abundance, flower color. etc., should be slipped into this folder. The folders are then placed between dryers or blotters and pressed. It is well to change the driers several times, especially for succulent plants, but the specimens should remain in the folders undisturbed. The quicker

the drying process is carried on the more likely are the plants to retain their color. Corrugated cardboard placed between the driers at intervals may be of considerable help, particularly when the press is hung over a stove and warm air passes through the corrugations.

After the specimens are thoroughly dried they should be identified and mounted. Standard sheets used by botanists all over the world measure $11\frac{1}{2} \times 16\frac{1}{2}$ inches; other sizes should not be used. They should be of a good grade of bristol which will not color with age.

The specimen is laid on this sheet and fastened by narrow strips of gummed tape; museum mounts are generally glued on as well, but this is not necessary for an amateur collection. A label in the lower right corner gives the name, date, locality and habitat, collector's name, and any other information. A photograph of the specimen in its native environment is a desirable addition to the sheet.

For protection and care in handling, stiff manilla or bristol board folders are used to separate genera—or, in the case of large genera, groups of species. These may then be placed in boxes or storage cabinets which are easily made from cardboard or wood. For amateur collections of over a thousand specimens, the large steel stationary storage cabinets for offices are cheap and just the right size.

To avoid attack by insect pests, the specimens should be fumigated about four times a year with carbon bisulfide. An alternative, which removes the necessity of using this unpleasant smelling chemical, is to paint the specimen before mounting with a 10% solution of mercuric bichloride, a very deadly poison which must be carefully used.

The next step, of course, is the identification of the plants you have collected. For this you will need:

1. A good plant manual.
2. A hand lens. preferably 6 to 12 times magnification.

Utmost care should be exercised in identification, This may at first seem to be a very laborious and uninteresting task. Soon, however, it will prove as interesting as the collecting but in a different way.

The best manuals for use in the Chicago Region are the following:

Pepoon, H. S., An annotated flora of the Chicago Region. The Chicago Academy of Sciences. 1927. xxii, 554 pages.

Fernald, M. L., Gray's New Manual of Botany. American Book Co. 1908. 926 pages.

Britton, N. L. & Addison Brown, An illustrated flora of the United States and Canada. Charles Scribner's Sons, 3 volumes 1896

There are many other collecting possibilities for those interested in plants. The following are just a few suggestions:

Seeds. These may be kept in small glass vials, envelopes, or pill boxes. Do not forget to label the locality, species and date of collection.

Pollens. For those interested in microscopy, the study of pollens will be most absorbing. It is preferable to make slides of the pollen, but this is a simple task. Although every plant can be identified merely by its pollen, it is best to take a sample of the plant for classification as it is sometimes rather difficult to distinguish between certain pollens.

Winter twigs. The identification of trees and shrubs by their twigs is a really interesting winter sport. Pepoon's book includes a key to these twigs by V. O. Graham. Few people know the differences in the buds of twigs, but with a little work most of them are easily recognised.

Leaf Prints. There are many types of leaf prints which may be made. Blueprint or Van Dyke paper is frequently used. Ink or lead may be rubbed on the leaf, and the leaf then pressed against a piece of paper leaving an imprint. This is particularly interesting for younger children.

Photographs. Good photographs of our native plants and trees are always a pleasure, but few people have had enough patience to do credit to this art.